

L5 - Descriptions, Tables of Values, Equations, Graphs

1. A rental car costs \$50 per day plus \$0.20 for each kilometre it is driven

- a) Write an equation to model the relationship.

C is the cost and n is the number of kilometres.

$$C = 0.20n + 50$$

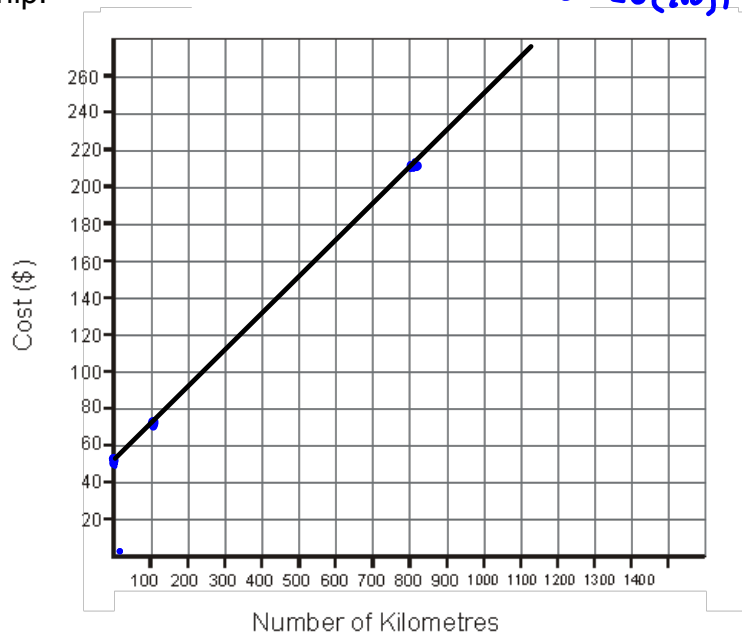
- b) Make a table of values for the rental fee up to 1000 km.

- c) Graph the relationship.

$$= 0.20(200) + 50$$

n

Number of Kilometres	Cost \$ C
0	50
100	70
200	90
300	110
400	130
500	150
600	170
700	190
800	210
900	230
1000	250

L5 - Descriptions, Tables of Values, Equations, Graphs

1. A rental car costs \$50 per day plus \$0.20 for each kilometre it is driven.

- d) What is the dependent variable?

Cost

- e) Does this relation represent a partial or direct variation? Explain.

Partial variation because it does not go through (0,0)

- f) Determine the rental fee for 45 km using the equation. Show your work. Can you also show the answer to this on the graph?

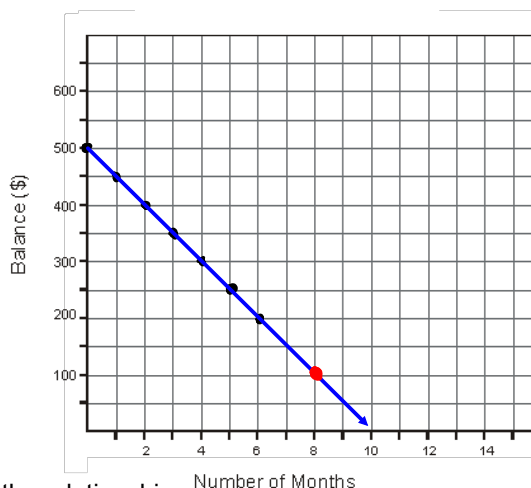
$$\begin{aligned} C &= 0.20n + 50 \\ &= 0.20(45) + 50 \\ &= 59 \end{aligned}$$

∴ the rental fee for 45 km is \$59.

2. There is \$500 in Holly's bank account. She takes out \$50 from her account each month but doesn't put any back in.

- a) Make a table of values for up to 6 months.
b) Graph the relationship.

X # of Months <i>m</i>	y Balance (\$) <i>B</i>
0	500
1	450
2	400
3	350
4	300
5	250
6	200



- c) Write an equation to model the relationship.

$$B = 500 - 50x$$

initial value

R.O.C.

$$B = -50x + 500$$

R.O.C.

initial value

- d) Does this relation represent a partial or direct variation?
Explain.

Partial variation

- e) How much will Holly have in her account after 8 months?
Show your work.

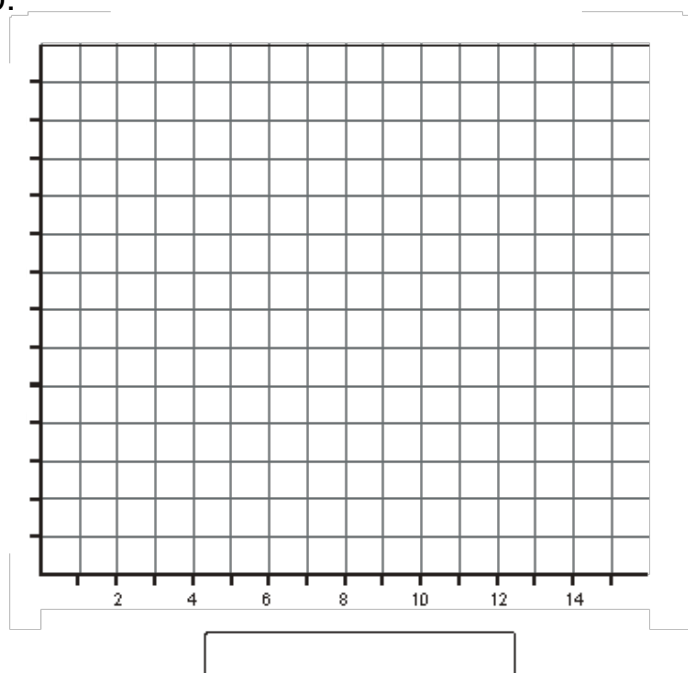
<i>From T.O.V.</i>	<i>From Graph</i>	<i>From Equation</i>
<i>100</i>	<i>100</i>	$y = 500 - 50(8)$ $= 100$

- f) How many months will have passed when Holly has \$50 in her account? Show your work.

<i>From T.O.V.</i>	<i>From Graph</i>	<i>From Equation</i>
<i>9</i>	<i>9 month</i>	$y = 500 - 5(90)$ $y = 9$

3. Nisha is just learning how to snowboard. White Mountain charges \$10/hour for lessons and \$40 for the lift ticket and snowboard rental.
- Make a table of values for up to 6 hours.
 - Graph the relationship.

<i>x</i> number of hour	<i>y</i> Cost
0	40
1	50
2	60
3	70
4	80
5	90
6	100



- c) Write an equation to model the relationship.

$$C = 10n + 40 \quad C = 40 + 10n$$

- d) Does this relation represent a partial or direct variation? Explain.

Partial because it does not start for (0,0)

- e) How much will it cost in total for Nisha to take 2.5 hours of lessons? Show your work.

$$\begin{aligned} C &= 10n + 40 \\ C &= 10(2.5) + 40 \\ C &= 65 \end{aligned}$$

∴ it will cost \$65 for a 2.5 hour lesson

- f) If Nisha paid \$75, how long was she at the White Mountain getting lessons? Show your work.

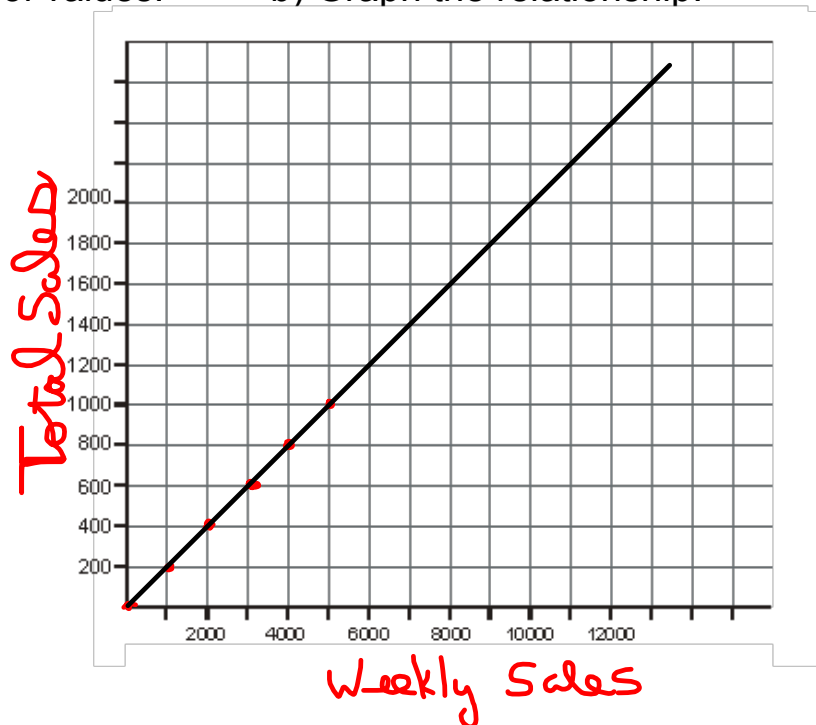
$$75 = 10n + 40$$

4. Ishmal sells high-definition televisions. He is paid a weekly salary of 20% commission of his total weekly sales.

$$P = 0.20s$$

- a) Complete the table of values. b) Graph the relationship.

s Weekly Sales (\$)	P Total Pay (\$)
0	0
1000	200
2000	400
3000	600
4000	800
5000	1000



- c) Write an equation to model the relationship.

$$P = 0.20s$$

- d) Does this relation represent a partial or direct variation? Explain.

Goes through (0,0)

- e) Determine Ishmal's pay if his sales for the week were \$8000.
Show your work.

$$\begin{aligned} P &= 0.20s \\ &= 0.20(8000) \\ &= 1600 \end{aligned}$$

∴ Ishmal will be paid \$1600 if he sells \$8000.

- f) Ishmal made \$975. How much were his weekly sales? Show your work.

$$\begin{aligned} P &= 0.20s \\ 975 &= 0.20s \\ \frac{975}{0.20} &= \frac{0.20s}{0.20} \\ 4875 &= s \\ s &= 4875 \end{aligned}$$

Ishmal will have to sell \$4875 to make \$975